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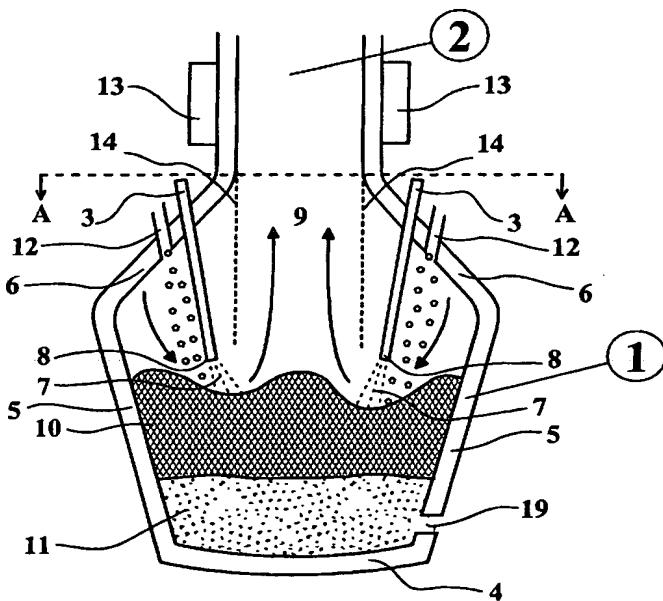
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(54) Title: METALLURGICAL VESSEL AND METHOD OF IRON MAKING BY MEANS OF DIRECT REDUCTION



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(57) Abstract: Metallurgical vessel for iron and steel making comprising a bottom portion, a sidewall and a lance arrangement of at least two lances for supplying oxygen containing gas to the interior of the vessel in operation wherein each lance comprises an end portion for emitting oxygen containing gas characterised in that the lance arrangement is configured so as to achieve in operation a substantially downwardly directed flow of post-combusted gases at the side wall of the vessel and a substantially upwardly directed flow of post-combusted gases in the center of the vessel.



- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 C21C5/56 C21C5/30

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C21C C21B F27B F27D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 195 985 A (BROTZMANN KARL) 1 April 1980 (1980-04-01)	1,3-8, 18,19, 21-23
Y	abstract column 1, line 5 - line 10 column 4, line 26 - line 45 column 6, line 48 -column 7, line 2 column 11, line 41 - line 68 claims 1,12; figure ---	2 -/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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- "A" document defining the general state of the art which is not considered to be of particular relevance
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
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X	US 4 399 983 A (METZ PAUL) 23 August 1983 (1983-08-23)	1-3, 7-9, 13, 18, 19, 21-23 20
A	abstract column 1, line 7 - line 9 column 1, line 55 -column 2, line 14 column 2, line 31 -column 3, line 3 column 3, line 16 - line 20 column 3, line 41 - line 52 claims 1,2; figure	
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A	abstract column 1, line 5 - line 12 column 2, line 22 - line 25 column 2, line 48 -column 3, line 18 column 3, line 39 - line 55 column 4, line 20 - line 45 claims 1,4,8-10; figures 2,3	
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